INDEX TO VOLUME 34

Abrus 326, 330
Acacia 327, 328, 329
Acokanthera 325
Adansonia 329, 331
Adiantum 284–298
Aesculus 267
Agathis 1–12
Agave 328, 330, 376–390, 391–400
Agriculture, development in Europe and Near East 51–67
Aleuritopteris 284–298
Allium 412, 414, 415
Almond 429–431
Alocasia 265
Ampelopteris 284–298
Amuti, Kofi, Geocarpa groundnut (*Kerstingiella geocarpa*) in Ghana 358–361
Anabaena 111–153
Analysis of an archaeological maize kernel cache from Manabi Province, Ecuador, Deborah M. Pearsall 344–351
Analysis of sampling strategies for collecting genetic material, Thomas P. Bogyo, Enrico Porceddu, and Pietro Perrino 160–174
Andropogon 201–218
Anethum 236–259
Angiopteris 296
Anise 236–259
Annato 330
Announcements 159, 190, 263, 319, 343
Antibiotics 284–298, 362–367
Antibiotic activity of Pteridophytes, R. D. Banerjee and S. P. Sen 284–298
Antifungal principle of *Ranunculus sceleratus*, S. B. Misra and S. N. Dixit 362–367
Antimicrobial plants 97–100, 362–367
Antiscorbutic 393
Apium 236–259
Apodanthera 312–319
Aporusa 270
Aphrodisiac 416
Arachis 219–235
Armoracia 280
Arora, R. K., M. L. Maheshwari, K. P. S. Chandel, and R. Gupta, Mano (*Inula racemosa*): Little known aromatic plant of Lahaul Valley, India 175–180
Arora, R. K., K. P. S. Chandel, B. S. Joshi, and K. C. Pant, Rice bean: Tribal pulse of eastern India 260–263
Arrows 328
Arrow poisons 325–326
Artemisia 97–100
Artocarpus 154–159, 271
Asparagus 273–275
Asplenium 284–298
Astringent 411
Athyrium 284–298
Attempts to hybridize wild *Manihot* species with cassava, Nagib M. A. Nassar 13–15
Atylosia 219–235
Avena 51–67, 426, 427
Azolla 284–298
Azolla: Botany, physiology, and use as a green manure, Thomas A. Lumpkin and Donald L. Plucknett 111–153
Azukia 219–235
Bacanora 391
Baccaurea 270
Bahre, Conrad J., and David E. Bradbury, Manufacture of mescal in Sonora, Mexico 391–400
Bamboo 265, 271
Bambusa 268
Banana 181–185, 321, 327, 328, 330
Banerjee, R. D., and S. P. Sen, Antibiotic activity of pteridophytes 284–298
Baobab 329, 331
Baphicacanthus 270
Barley 51–67, 421–422, 424
Barringtonia 185, 325
Beans 321
Beans, wild 68–85
Benincasa 276
Berry, J. W. 68–85
Bhat community 273–275
Biochemical systematics and evolution of *Zea*, *Tripsacum* and related genera, J. Stephen C. Smith and Richard N. Lester 201–218
Biological control 143
Bischofia 271
Bittervetch 403, 409
Bixa 330
Black wattle 327
Bogyo, Thomas P., Enrico Porceddu, and Pietro Perrino, Analysis of sampling strategies for collecting genetic material 160–174
Borthakur, S. K. 264–272
Botanical aspects of commercial sage, Arthur O. Tucker, Michael J. Maciarello, and John T. Howell 16–19
Bothriochloa 201–218
Botrychium 284–298
Bowstrings 328
Bow wood 328
Bracken fern 405
Bradbury, David E. 391–400
Brassica 402
Breadfruit 181–185
Broadbean 404, 407
Brush fibers 376, 382–385

Buettneria 268
Butea 273–275
Buttercup 362–367
Cajanus 219–235
Calamus 268
Camphorised oil 186–190
Canavalia 219–235, 276
Candelilla 376
Cannabis 402
Caraway 236–259
Carbonized food plants of Pompeii, Herculaneum, and the Villa at Torre Annunziata, Frederick G. Meyer 401–437
Carob 403, 406, 410
Carum 236–259
Cassava 13–15, 321
Cassia 268
Castanea 412, 413
Castanopsis 271
Castor bean 330
Ceará rubber 330
Ceiba 329
Celery 236–259
Ceratonia 406, 410
Ceratotropis 219–235
Chan, Yuk-Sim 20–26
Chandel, K. P. S. 175–180, 260–263
Charcoal 331
Cherry, sour 428, 431–432
Chestnut, 402, 403, 412, 413
Chickpea 402, 403, 404, 409
Chlorophora 327, 328, 329, 331
Christella 284–298
Chuño 342
Cicer 219–235, 402, 403, 404, 409
Citrullus 273–275
Citrus 273–275
Clerodendrum 273–275
Coccinia 276
Cochlearia 280
Cocolmeca 68–85
Coffee 321
Coix 201–218
Collecting cultivated and wild cucurbits in Mexico, Thomas W. Whitaker and Robert J. Knight, Jr. 312–319
Cominum 273–275
Comparative study of wastewater lagoon with and without water hyacinth, Rebecca C. McDonald and B. C. Wolverton 101–110
Construction materials 326–328, 386–388
Copal 1–12, 330, 331
Corchorus 330
Cordage fiber 383
Coriander 236–259, 402
Coriandrum 236–259, 402
Corn 201–218, 321, 329, 344–351
Corylus 406, 407
Cotton 270
Cox, Paul Alan, Two Samoan technologies for breadfruit and banana preservation 181–185
Cowpeas 321, 360
Crabapple 403, 430, 433
Crab's eyes 326
Crataeva 267
Crotalaria 267
Ctenitis 284–298
Cucumis 273–275, 312–319
Cucurbita 312–319, 328
Cuminum 236–259
Curcuma 330
Cyamopsis 219–235
Cyathea 284–298, 327
Cyclosorus 284–298
Cymbopogon 186–190
Cyrtomium 284–298
Dasylirion 395
Date 330, 418–419, 420
Davallia 284–298
Dendrocalamus 268, 271
Dethymolysed oil 186–190
Development of agriculture in Europe and the Near East: Evidence from quantitative studies, R. N. L. B. Hubbard 51–67
Dicranopteris 296
Dikshit, Anupam 186–170
Dill 236–259
Dioscorea 360
Diplazium 284–298
Distinguished economic botanist award 1980 309–311
Divination 326
Dixit, S. N. 186–190, 362–367
Dolichos 219–235, 276
Dombeya 328, 329, 331
Doodia 296
Dracaena 271
Drumstick (*Moringa oleifera*): a multipurpose Indian vegetable, C. Ramachandran, K. V. Peter, and P. K. Gopalakrishnan 276–283
Drynaria 284–298
Dryopteris 284–298
Duckweed 109
Dulse 27–50
Dye plants 270–271, 330, 414
Dysoxylum 267, 268
Ebony 331
Eichhornia 101–110, 142
Einkorn 51–67
Elecampane 177
Elyonurus 201–218
Emantia 330
Embelia 273–275

Emetic 358, 360
Emmer 51–67, 403, 423
Epstein, William W. 97–100
Equisetum 284–298
Eragrostis 327
Ervum 411
Erythrina 267
Erythropalum 267
Erythrophleum 326
Eskimo uses of *Artemisia tilesii* (Compositae), Theresa Overfield, William W. Epstein and Larry A. Gaudioso 97–100
Essential oils 186–190
Ethnobotany 320–321
Ethnobotany of *Agave lecheguilla* and *Yucca carnerosana* in Mexico's Zona Ixtlera, Sam Sheldon 376–390
Ethnobotany of the Mikirs of India, S. K. Jain and S. K. Borthakur 264–272
Eucalyptus 329
Euphorbia 325, 327, 376
Evolution and evolutionary problems in food legumes, J. Smartt 219–235
Fagara 331
Fencing 327, 386–388
Fennel 236–259
Fertility regulating plants 273–275
Ferula 273–275
Fiber plants 329–330, 376–390
Ficus 273–275, 326, 328, 329, 402, 412, 416
Fig 326, 402, 412, 416
Filbert 403, 406, 407
Fish poisons 325
Fleuret, Anne, Nonfood uses of plants in Usambara 320–324
Fleurya 330
Foeniculum 236–259
Folk classification 321–323
Food legumes 219–235, 358–361
Food plants 391
Fuel 331
Fungitoxic activity of some essential oils, A. K. Singh, Anupam Dikshit, M. L. Sharma, and S. N. Dixit 186–190
Furniture 328–329
Futumia 330
Garcinia 267
Garlic 412, 415
Gaudioso, Larry A. 97–100
Gau sun: a cultivated host-parasite combination from China, L. B. Thrower and Yuk-Sim Chan 20–26
Geocarpa groundnut (*Kerstingiella geocarpa*) in Ghana, Kofi Amuti 358–361
Ginger grass oil 186–190
Glycine 219–235
Gleichenia 284–298
Glycyrrhiza 273–275
Gmelina 267, 268, 271
Gnetum 265
Grape 402, 430, 433–435
Gopalakrishnan, P. K. 276–283
Gossypium 270
Gourd 312–319, 328
Grams 219–235
Green manure 111–153
Groundnut 219–235, 358–361
Guar 219–235
Guayule 376
Gum plants 330
Gupta, R. 175–180
Hawkes, J. G. 335–343
Hazelnut 406, 407
Helianthus 352–357
Heliconia 182–184
Helminthosporium 186–190
Hemionites 284–298
Hemp 402
Hibiscus 185, 330
Hordeum 51–67, 201–218, 421–422, 424
Horseradish 280
Howell, John T. 16–19
Huamán, Z., J. G. Hawkes, and P. R. Rowe, *Solanum ajanhuiri:* An important diploid cultivated potato in the Andean altiplano 335–343
Hubbard, R. N. L. B., Development of agriculture in Europe and the Near East: Evidence from quantitative studies 51–67
Hyphaene 330
Iboza 327, 328
Illicium 236–259
Ilyas, M., Spices in India: III 236–259
Imperata 268, 327
Incense plants 331
Indian bread-root 352–357
Indigofera 271
Inula 175–180
Inulin 354
Iroko 327
Ixtle 376–390
Jackfruit, *Artocarpus heterophyllus* (Moraceae), as a source of food and income, C. A. Thomas 154–159
Jain, S. K., and S. K. Borthakur, Ethnobotany of the Mikirs of India 264–272
Jatropha 326
Jerusalem artichoke 352–357
Johnston, A. 352–357
Joshi, B. S. 260–263
Juglans 405, 414, 428
Jute 330
Kaldy, M. S., A. Johnston, and D. B. Wilson, Nutritive value of Indian bread-root,

squaw-root, and Jerusalem artichoke 352–357
Kapok tree 329
Kauri pine 1–12
Kerstingiella 358–361
Kigelia 331
Knight, Robert J., Jr. 312–319
Kuth 175
Lablab 219–235
Lagenaria 312–319, 328
Lal, Shiv Darshan, and Kamlesh Lata, Plants used by the Bhat community for regulating fertility 273–275
Lata, Kamlesh 273–275
Lathyrus 219–235
Laxative 411
Lechuguilla 376–390, 391–400
Leea 267
Legumes 219–235
Lemna 109, 142
Lens 51–67, 219–235, 404, 411
Lentil 51–67, 402, 404, 411
Lepisorus 284–298
Leptochillus 284–298
Lester, Richard N. 201–218
Leucostegia 284–298
Lindsaea 284–298
Litsea 271
Livistona 268
Loofah 330
Luffa 330
Lumpkin, Thomas A., and Donald L. Plucknett, *Azolla*: Botany, physiology, and use as a green manure 111–153
Lycium 273–275
Lycopodium 296
Lygodium 284–298
Maciarello, Michael J. 16–19
Macrotyloma 219–235, 358–361
Maguey 391–400
Maheshwari, M. L. 175–180
Mahogany 331
Maize 201–218, 321, 329, 244–351
Malus 403, 430, 433
Mangifera 271
Manihot 13–15, 328, 330
Manila copal 1–12
Manisuris 201–218
Mano (*Inula racemosa*): Little known aromatic plant of Lahaul Valley, India, R. K. Arora, M. L. Maheshwari, K. P. S. Chandel, and R. Gupta 175–180
Manufacture of mescal in Sonora, Mexico, Conrad J. Bahre and David E. Bradbury 391–400
Marsilea 284–298
McDonald, Rebecca, and B. C. Wolverton, Comparative study of wastewater lagoon with and without water hyacinth 101–110
Medicinal plants 97–100, 265–268, 273–275, 276–283, 284–298, 323–326, 358, 360, 391
Medina, Freddy R., and Lawrence S. Ritchie, Molluscicidal activity of the Puerto Rican weed, *Solanum nodiflorum*, against snail hosts of *Fasciola hepatica* 368–375
Melia 271
Melothria 312–319
Mescal (Mezcal) 386, 391–400
Mesquite 397
Mesua 268, 273–275
Meyer, Frederick G., Carbonized food plants of Pompeii, Herculaneum, and the Villa at Torre Annunziata 401–437
Microlepia 284–298
Micromelum 267
Microsorium 284–298
Mikirs 264–272
Millet 51–67
Millet, broomcorn 423–425, 426
Millet, foxtail or Italian 425–427
Mimosa 273–275
Misra, S. B., and S. N. Dixit, Antifungal principle of *Ranunculus sceleratus* 362–367
Molluscicidal activity of the Puerto Rican weed, *Solanum nodiflorum*, against snail hosts of *Fasciola hepatica*, Freddy R. Medina and Lawrence S. Ritchie 368–375
Momordica 276, 312–319
Morgan, Keith, Jeffrey L. C. Wright, and F. J. Simpson, Review of chemical constituents of the red alga *Palmaria palmata* (dulse) 27–50
Morinda 267
Moringa 265, 273–275, 276–283
Mucuna 267
Murraya 267
Musa 330
Mustard, black 402
Myristica 273–275
Nabhan, G. P., J. W. Berry, and C. W. Weber, Wild bean of the greater Southwest: *Phaseolus metcalfei* and *P. ritensis* 68–85
Nassar, Nagib M. A., Attempts to hybridize wild *Manihot* species with cassava 13–15
Neohouzeana 268
Neprolepis 284–298
News items 334
Nitrogen fixation 111–153
Nonfood uses of plants in Usambara, Anne Fleuret 320–334
Nutritive value of Indian bread-root, squaw-root, and Jerusalem artichoke, M. S. Kaldy, A. Johnston, and D. B. Wilson 352–357
Oat 51–67, 403, 426, 427

Oak 402
Ocimum 186–190
Ocotea 326, 328, 331
Olea 331, 402, 405, 406, 417
Olive 402, 405, 406, 417
Onion 321, 412, 414
Onychium 284–298
Ordeal poisons 326
Ordeal tree 326
Ornaments 330
Oroxylum 271
Osmunda 284–298
Overfield, Theresa, William W. Epstein, and Larry A. Gaudioso, Eskimo uses of *Artemisia tilesii* (Compositae) 97–100
Pachyrrhizus 219–235
Palmaria 27–50
Palma samandoca 376–390
Panicum 51–67, 201–218, 327, 423–425, 426
Pant, K. C. 260–263
Parthenium 376
Pea 51–67, 402, 403
Peach 402
Pear 403, 430, 432–433
Pearsall, Deborah M., Analysis of an archaeological maize kernel cache from Manabi Province, Ecuador 344–351
Pennisetum 327
Peranema 284–298
Perideridia 352–357
Perrino, Pietro 160–174
Peter, K. V. 276–283
Phaseolus 68–85, 219–235
Phlogacanthus 270–271
Phoenix 330, 418–419, 420
Phrynium 268
Phymatodes 284–298
Physic nut 326
Phytolacca 330, 368
Picrasma 268
Pigeon peas 321
Pimpinella 236–259
Pine 402, 403, 419–421
Pinus 402, 403, 405, 419–421
Piper 271, 273–275
Pistacia 51–67, 273–275
Pistia 142
Pisum 51–67, 219–235, 402, 403
Pithecolobium 271
Pityrogramma 284–298
Plants used by the Bhat community for regulating fertility, Shiv Darshan Lal and Kamlesh Lata 273–275
Plantago 405
Plucknett, Donald L. 111–153
Plum 402
Podocarpus 328, 329
Poisonous plants 323–326
Polypodium 284–298, 405
Polystichum 284–298
Porceddu, Enrico 160–174
Potatoes 321, 335–343
Prosopsis 397
Protoanemonin 362–367
Prunus 402, 428, 429–432
Psophocarpus 219–235
Psoralea 352–357
Pteridophytes 284–298
Pteridium 405
Pteris 284–298
Pulque 392
Pulse 260–263
Pumpkin 312–319
Pupalia 328
Pyrrosia 284–298
Pyrus 403, 430, 432–433
Quercus 405
Ramachandran, C., K. V. Peter, and P. K. Gopalakrishnan, Drumstick (*Moringa oleifera*): a multipurpose Indian vegetable 276–283
Ranunculus 263–267
Rape 402
Raphia 330
Rauvolvia 328
Regulating fertility 273–275
Review of chemical constituents of the red alga *Palmaria palmata* (dulse), Keith Morgan, Jeffrey L. C. Wright, and F. J. Simpson 27–50
Rhamnus 268
Rhizobium 358
Rhodymenia 27–50
Rhynchotechum 265
Rice 111–153, 265
Rice bean: Tribal pulse of eastern India, R. K. Arora, K. P. S. Chandel, B. S. Joshi, and K. C. Pant 260–263
Ricinus 270, 330–331
Ritchie, Lawrence S. 368–375
Rosa sofia oil 186–190
Rowe, P. R. 335–343
Rumex 330
Rye 51–67
Sacred plants 323–326
Sage 16–19
Salmalia 268, 271
Salvadora 330
Salvia 16–19
Salvinia 142
Sapindus 268
Sapogenin 385–386
Sausage tree 331
Saussurea 175

Schima 271
Secale 51–67
Sechium 312–319
Selaginella 284–298
Sen, S. P. 284–298
Sesamum 273–275
Sesbania 131
Setaria 425–427
Sharma, M. L. 186–190
Sheldon, Sam, Ethnobotany of *Agave lecheguilla* and *Yucca carnerosana* in Mexico's Zona Ixtlera 376–390
Sicana 312–319
Sicyos 312–319
Sida 273–275
Simpson, F. J. 27–50
Singh, A. K., Anupam Dikshit, M. L. Sharma, and S. N. Dixit, Fungitoxic activity of some essential oils 186–190
Sisal 328, 330
Smartt, J., Evolution and evolutionary problems in food legumes 219–235
Smilax 271
Smith, J. Stephen C., and Richard N. Lester, Biochemical systematics and evolution of *Zea, Tripsacum* and related genera 201–218
Smithia 273–275
Soap plants 330, 385–386
Solanum 276, 368–375
Solanum ajanhuiri: An important diploid cultivated potato in the Andean altiplano, Z. Huamán, J. G. Hawkes, and P. R. Rowe 335–343
Soporific 416
Sorghum 208
Sotol 395
Soybean 219–235
Sphaeranthus 273–275
Sphaerostephanus 284–298
Sphenomeris 284–298
Spices in India: III, M. Ilyas 236–259
Spirodela 109, 142
Sponges 330
Squash 312–319
Squaw-root 352–357
Star anise 236–259
Stenochlaena 284–298
Sterculia 268
St. John's bread 410
Strophanthus 325
Styrax 273–275
Sugarcane 329, 331
Sweet potatoes 321
Tannin 327
Taro 321
Tea 321
Tectaria 284–298
Telfairia 331
Teosinte 201–218
Tephrosia 325
Tequila 391–400
Terminalia 271
Thatch plants 327
Thomas, C. A., Jackfruit, *Artocarpus heterophyllus* (Moraceae), as a source of food and income 154–159
Thrower, L. B., and Yuk-Sim Chan, Gau sun: a cultivated host-parasite combination from China 20–26
Tinospora 273–275
Toilet paper substitutes 330
Tools 328
Toothbrushes 330
Trachylobium 330, 331
Trachyspermum 186–190, 236–259
Traps 328
Tree fern 327
Trichosanthes 276
Tripsacum 201–218
Triticum 51–67, 201–218, 402, 403
Triumfetta 330
Tucker, Arthur O., Michael J. Maciarello, and John T. Howell, Botanical aspects of commercial sage 16–19
Turmeric 330
Two Samoan technologies for breadfruit and banana preservation, Paul Alan Cox 181–185
Utensils, 328
Ustilago 20–26
Utilization, potential, and conservation of *Agathis*, a genus of tropical Asian conifers, T. C. Whitmore 1–12
Vatica 268
Veronia 328
Vetch 403, 404, 409
Vicia 51–67, 219–235, 403, 404, 407, 409
Vigna 219–235, 260–263, 360
Vitis 402, 430
Vitvex 273–275, 433–435
Voandzeia 219–235, 360
Walnut, English or Persian 414, 428
Water hyacinth 101–110
Water indicators 326
Watermelon 312–319
Wattle 321, 327
Weapons 328
Weber, C. W. 68–85
Wheat 51–67, 160–174, 321, 402, 403, 423
Whitaker, Thomas W., 1980 Distinguished Economic Botanist Award 309–311
Whitaker, Thomas W., and Robert J. Knight, Jr., Collecting cultivated and wild cucurbits in Mexico 312–319

Whitmore, T. C., Utilization, potential and conservation of *Agathis*, a genus of tropical Asian conifers 1–12
Wild bean of the greater Southwest: *Phaseolus metcalfei* and *P. ritensis*, Nabhan, G. P., J. W. Berry, and C. W. Weber 68–85
Wilson, D. B. 352–357
Winged bean 219–235
Wolverton, B. C. 101–110
Wood 326–328
Wright, Jeffrey L. C. 27–50
Xanthium 273–275
Yam 360
Yucca 376–390
Zea 201–218
Zizania 20–26

INDEX TO BOOK REVIEWS IN VOLUME 34

Advances in agronomy, vol. 30, N. C. Brady, editor 302
Agricultural ecology. An analysis of world food production systems, W. Cox and Michael D. Atkins 439–440
Alexopoulos, Constantine J., and Charles W. Mims, Introductory mycology 440–441
Allen, Charles M., Grasses of Louisiana 443–444
Alternative foods. A world guide to lesser-known edible plants, James Sholto Douglas 199–200
Aquatic and wetland plants of the southeastern states. Monocotyledons. Robert K. Godfrey and Jean W. Wooten 301
Atkins, Michael D. 439–440
Barbour, Michael G., and Jack Major, Terrestrial vegetation of California 438
Bare, Janet E., Wildflowers and weeds of Kansas 92
Barley, D. E. Briggs 306
Biology and cultivation of edible mushrooms, edited by S. T. Chang and W. A. Hayes 90
Biology of the fungi, Ian K. Ross 446–447
Biosystematics in agriculture, John A. Romberger, editor 88–89
Botanical dermatology: Plants and products injurious to the skin, John Mitchell and Arthur Rook 444–446
Brady, N. C., editor, Advances in agronomy, vol. 30 302
Briggs, D. E., Barley 306
Brown, A. W. A., Ecology of pesticides 299
Brücher, Heinz, Tropische Nutzpflanzen: Ursprung, Evolution und Domestikation 86–88
Cacti naturalised in Australia and their control, John Mann 92–93
Cashew, edited by M. K. Nair, E. V. V. Bhaskara Rao, K. K. N. Nambiar, and M. C. Nambiar 195–196
Chang, S. T., and W. A. Hayes, editors, The biology and cultivation of edible mushrooms 90
Clark, Grahame 86
Coconuts: Production, processing, products, Jasper Guy Woodroof 192–193
Coffee technology, Michael Sivetz and Norman W. Desrosier 448–450
Correll, Donovan Stewart, Native orchids of North America north of Mexico 91
Cox, W., and Michael D. Atkins, Agricultural ecology. An analysis of world food production systems 439–440
Dalrymple, Dana G., Development and spread of high-yielding varieties of wheat and rice in the less developed nations 303
Date palm. Bread of the desert, Hilda Simon 200
Daubenmire, Rexford, Plant geography with special reference to North America 299
Desrosier, Norman W. 448–450
Development and spread of high-yielding varieites of wheat and rice in the less developed nations, Dana G. Dalrymple 303
Douglas, James Sholto, Alternative foods. A world guide to lesser-known edible plants 199–200
Dyer, A. F., editor, The experimental biology of ferns 305–306
Early history of agriculture, Joseph Hutchinson, Grahame Clark, E. M. Jope, and R. Riley 86
Ecology of pesticides, A. W. A. Brown 299
Edlin, Herbert, The tree key. A guide to identification in garden, field, and forest 180
Effects of poisonous plants on livestock, edited by Richard F. Keeler, Kent R. Van Kampen, and Lynn F. James 194–195
Ethnopharmacology, journal of 94–95
Experimental biology of ferns, A. F. Dyer, editor 305–306
Faegeri, K. and L. van der Pijl, The principles of pollination ecology 95–96
Fahn, A., Secretory tissues in plants 300
Flavor technology: Profiles, products, applications, Henry B. Heath 100
Ford, Richard I., The nature and status of ethnobotany 193–194
Forest microclimatology, Richard Lee 300

Forman, Richard T. T., editor, Pine barrens. Ecosystem and landscape 198
Geographical atlas of world weeds, Leroy Holm, Juan V. Pancho, James P. Herberger, and Donald L. Plucknett 441–443
Godfrey, Robert K., and Jean W. Wooten, Aquatic and wetland plants of the southeastern states. Monocotyledons 301
Grasses of Louisiana, Charles M. Allen 443–444
Grime, J. P., Plant strategies and vegetation processes 438–439
Guar: Agronomy, production, industrial use, and nutrition, Roy L. Whistler and Theodore Hymowitz 451
Guzmán, Gastón, Hongos 96
Harbone, J. B., Introduction to ecological biochemistry 110
Harlow, William M., Ellwood S. Harrar, and Fred M. White, Textbook of dendrology. Covering the important forest trees of the United States and Canada 302–303
Harrar, Ellwood S. 302–303
Hayes, W. A. 90
Heath, Henry B., Flavor technology: Profiles, products, applications 100
Heath, Michelle C. 444
Herberger, James P. 441–443
Herbivores: Their interaction with secondary plant metabolites, edited by Gerald A. Rosenthal and Daniel H. Janzen 447–448
Holm, Leroy, Juan V. Pancho, James P. Herberger, and Donald L. Plucknett, A geographical atlas of world weeds 441–443
Home gardener's book of ferns, John Mickel 89
Hongos, Gastón Guzmán 96
Hosmani, M. M., Striga (a noxious root parasitic weed) 304–305
How to know the fern and fern allies John T. Mickel 390
Hutchinson, Joseph, Grahame Clark, E. M. Jope, and R. Riley, The early history of agriculture 86
Hymowitz, Theodore 451
Illustrated flora of Illinois. Flowering plants: willows to mustards, Robert H. Mohlenbrock 306–307
Illustrated guide to pollen analysis, P. D. Morre and J. A. Webb 191
Introduction to ecological biochemistry, J. B. Harbone 110
Introductory mycology, Constantine J. Alexopoulos and Charles W. Mims 440–441
James, Lynn F. 194–195
Janzen, Daniel H. 447–448
Jensen, Hans Arne, Seeds and other diaspores in medieval layers from Svenborg 198–199
Jope, E. M. 86
Journal of ethnopharmacology 94–95
Keeler, Richard F., Kent R. Van Kampen, and Lynn F. James, Effects of poisonous plants on livestock 194–195
Lee, Richard, Forest microclimatology 300
Littlefield, Larry J., and Michelle C. Heath, Ultrastructure of rust fungi 444
Luh, Bor S. and others, Rice: Production and utilization 440
Maize breeding and genetics, David B. Walden, editor 304
Major, Jack 438
Mann, John, Cacti naturalised in Australia and their control 92–93
Medicinal and aromatic plants abstracts 451–452
Medicinal plants of east and southeast Asia: Attributed properties, Lily M. Perry 361
Meléndez, Esteban Nuñez, Plantas Medicinales de Costa Rica y su Folclore 196–197
Mickel, John, The home gardener's book of ferns 89
Mickel, John T., How to know the ferns and fern allies 390
Microbiology of food fermentations, Carl S. Pederson 91–92
Miles, John, Vegetation dynamics 302
Mims, Charles W. 440–441
Mitchell, John, and Arthur Rook, Botanical dermatology: Plants and products injurious to the skin 444–446
Mohlenbrock, Robert H., The illustrated flora of Illinois, Flowering plants: willows to mustards 306–307
Morre, P. D., and J. A. Webb, An illustrated guide to pollen analysis 191
Nair, M. K., E. V. V. Bhaskara Rao, K. K. N. Nambiar, and M. C. Nambiar, Cashew 195–196
Nambiar, K. K. N. 195–196
Nambiar, M. C. 195–196
National Academy of Sciences, Tropical legumes: resources for the future 301–302
Native orchids of North America north of Mexico, Donovan Stewart Correll 91
Nature and status of ethnobotany, edited by Richard I. Ford 193–194
Pancho, Juan V. 441–443
Pederson, Carl S., Microbiology of food fermentations 91–92
Perry, Lily M., Medicinal plants of east and southeast Asia: Attributed properties 361
Petrik-Ott, Aleta Jo, The pteridophytes of Kansas, Nebraska, South Dakota and North Dakota, U.S.A. 452
Phillips, Roger, Trees of North America and Europe 197

Pine barrens. Ecosystem and landscape, edited by Richard T. T. Forman 198
Plantas Medicinales de Costa Rica y su Folclore, Esteban Nuñez Meléndez 196–197
Plant geography with special refernce to North America, Rexford Daubenmire 299
Plants of the Chicago region, Floyd Swink and Gerould Wilhelm 191–192
Plant strategies and vegetation processes, J. P. Grime 438–439
Plucknett, Donald L. 441–443
Plucknett, Donald L., Small-scale processing and storage of tropical root crops 450
Principles of pollination ecology, K. Faegri and L. van der Pijl 95–96
Pteridophytes of Kansas, Nebraska, South Dakota and North Dakota, U.S.A., Aleta Jo Petrik-Ott 452
Rao, E. V. V. Bhaskara 195–196
Rice: Production and utilization, Bor S. Luh and others 440
Riley, R. 86
Romberger, John, editor, Biosystematics in agriculture 88–89
Rook, Arthur 444–446
Rosenthal, Gerald A., and Daniel H. Janzen, Herbivores: Their interaction with secondary plant metabolites 447–448
Ross, Ian K., Biology of the fungi 446–447
Schmarotzer. Pflanzen die von Anderen Leben, Hans-Christian Weber 305
Secretory tissues in plants, A. Fahn 300
Seeds and other diaspores in medieval layers from Svendborg, Hans Arne Jensen 198–199
Simon, Hilda, The date palm. Bread of the desert 200
Sivetz, Michael, and Norman W. Desrosier, Coffee technology 448–450
Small-scale processing and storage of tropical root crops, edited by Donald L. Plucknett 450
Striga (a noxious root parasitic weed), M. M. Hosmani 304–305
Swink, Floyd, and Gerould Wilhelm, Plants of the Chicago region 191–192
Terrestrial vegetation of California, edited by Michael G. Barbour and Jack Major 438
Textbook of dendrology. Covering the important forest trees of the United States and Canada. William M. Harlow, Ellwood S. Harrar, and Fred M. White 302–303
Thieszen, Larry L., editor, Vegetation and production ecology of Alaskan Arctic tundra 153
Tree key. A guide to identification in garden, field, and forest, Herbert Edlin 180
Tree nuts: Production, processing, products, Jasper Guy Woodroof 93–94
Trees of North America and Europe, Roger Phillips 197
Tropical legumes: Resources for the future, National Academy of Sciences 301–302
Tropische Nutzpflanzen: Ursprung, Evolution und Domestikation, Heinz Brücher 86–88
Ultrastructure of rust fungi, Larry J. Littlefield and Michelle C. Heath 444
van der Pijl, L. 95–96
Van Kampen, Kent R. 194–195
Vegetation and production ecology of Alaskan Arctic tundra, edited by Larry L. Tieszen 153
Vegetation dynamics, John Miles 302
Walden, David B., editor, Maize breeding and genetics 304
Webb, J. A. 191
Weber, Hans-Christian, Schmarotzer. Pflanzen die von Anderen Leben 305
Whistler, Roy L., and Theodore Hymowitz, Guar: Agronomy, production, industrial use, and nutrition 451
White, Fred M. 302–303
Wildflowers and weeds of Kansas, Janet E. Bare 92
Wilhelm, Gerould 191–192
Woodroof, Jasper Guy, Tree nuts: Production, processing, products 93–94; Coconuts: Production, processing, products 192–193
Wooten, Jean W. 301

ECONOMIC BOTANY

Devoted to Past, Present, and Future Uses of Plants by Man

Founded by

Edmund H. Fulling

Publication of The Society for Economic Botany

VOLUME 34

1980

Published for The Society

by

THE NEW YORK BOTANICAL GARDEN

Printed by
Allen Press, Inc.
Lawrence, Kansas

NUMBER 1
January–March 1980

Utilization, Potential, and Conservation of *Agathis*, a Genus of Tropical Asian Conifers *T. C. Whitmore* 1

Attempts to Hybridize Wild *Manihot* Species with Cassava *Nagib M. A. Nassar* 13

Botanical Aspects of Commercial Sage *Arthur O. Tucker, Michael J. Maciarello, and John T. Howell* 16

Gau Sun: a Cultivated Host-Parasite Combination from China *L. B. Thrower and Yuk-Sim Chan* 20

Review of Chemical Constituents of the Red Alga *Palmaria palmata* (Dulse) *Keith C. Morgan, Jeffrey L. C. Wright, and F. J. Simpson* 27

Development of Agriculture in Europe and the Near East: Evidence from Quantitative Studies *R. N. L. B. Hubbard* 51

Wild Beans of the Greater Southwest: *Phaseolus metcalfei* and *P. ritensis* *G. P. Nabhan, J. W. Berry, and C. W. Weber* 68

Book Reviews 86

Issued 14 April 1980

NUMBER 2
April–June 1980

Eskimo Uses of *Artemisia tilesii* (Compositae) *Theresa Overfield, William W. Epstein, and Larry A. Gaudioso* 97

Comparative Study of Wastewater Lagoon with and without Water Hyacinth *Rebecca C. McDonald and B. C. Wolverton* 101

***Azolla*: Botany, Physiology, and Use as a Green Manure** *Thomas A. Lumpkin and Donald L. Plucknett* 111

Jackfruit, *Artocarpus heterophyllus* (Moraceae), as Source of Food and Income *C. A. Thomas* 154

Analysis of Sampling Strategies for Collecting Genetic Material *Thomas P. Bogyo, Enrico Porceddu, and Pietro Perrino* 160

Mano (*Inula racemosa*): Little Known Aromatic Plant of Lahaul Valley, India *R. K. Arora, M. L. Maheshwari, K. P. S. Chandel, and R. Gupta* 175

Two Samoan Technologies for Breadfruit and Banana Preservation *Paul Alan Cox* 181

Fungitoxic Activity of Some Essential Oils
A. K. Singh, Anupam Dikshit, M. L. Sharma, and S. N. Dixit 186
Book Reviews 100, 110, 153, 180, 191
Announcements 159, 190

Issued 19 May 1980

NUMBER 3
July–September 1980

Biochemical Systematics and Evolution of *Zea, Tripsacum* and Related Genera *J. Stephen C. Smith and Richard N. Lester* 201
Evolution and Evolutionary Problems in Food Legumes *J. Smartt* 219
Spices in India: III *M. Ilyas* 236
Rice Bean: Tribal Pulse of Eastern India
R. K. Arora, K. P. S. Chandel, B. S. Joshi, and K. C. Pant 260
Ethnobotany of the Mikirs of India *S. K. Jain and S. K. Borthakur* 264
Plants Used by the Bhat Community for Regulating Fertility
Shiv Darshan Lal and Kamlesh Lata 273
Drumstick (*Moringa oleifera*): A Multipurpose Indian Vegetable
C. Ramachandran, K. V. Peter, and P. K. Gopalakrishnan 276
Antibiotic Activity of Pteridophytes *R. D. Banerjee and S. P. Sen* 284
Book Reviews 299
Announcement 263

Issued 10 July 1980

NUMBER 4
October–December 1980

1980 Distinguished Economic Botanist Award 309
Collecting Cultivated and Wild Cucurbits in Mexico
Thomas W. Whitaker and Robert J. Knight, Jr. 312
Nonfood Uses of Plants in Usambara *Anne Fleuret* 320

Solanum ajanhuiri: An Important Diploid Potato Cultivated in the Andean Altiplano *Z. Huamán, J. G. Hawkes, and P. R. Rowe* 335

Analysis of an Archaeological Maize Kernel Cache from Manabi Province, Ecuador *Deborah M. Pearsall* 344

Nutritive Value of Indian Bread-root, Squaw-root, and Jerusalem Artichoke *M. S. Kaldy, A. Johnston, and D. B. Wilson* 352

Geocarpa Groundnut (*Kerstingiella geocarpa*) in Ghana *Kofi Amuti* 358

Antifungal Principle of *Ranunculus sceleratus* *S. B. Misra and S. N. Dixit* 362

Molluscicidal Activity of the Puerto Rican Weed, *Solanum nodiflorum*, Against Snail Hosts of *Fasciola hepatica* *Freddy R. Medina and Lawrence S. Ritchie* 368

Ethnobotany of *Agave lecheguilla* and *Yucca carnerosana* in Mexico's Zona Ixtlera *Sam Sheldon* 376

Manufacture of Mescal in Sonora, Mexico *Conrad J. Bahre and David E. Bradbury* 391

Carbonized Food Plants of Pompeii, Herculaneum, and the Villa at Torre Annunziata *Frederick G. Meyer* 401

Announcements 319, 343

News Items 334

Book Reviews 361, 390, 438

Index to Volume 34 453

Index to Book Reviews in Volume 34 459

Statement of ownership 462

Issued 31 December 1980